

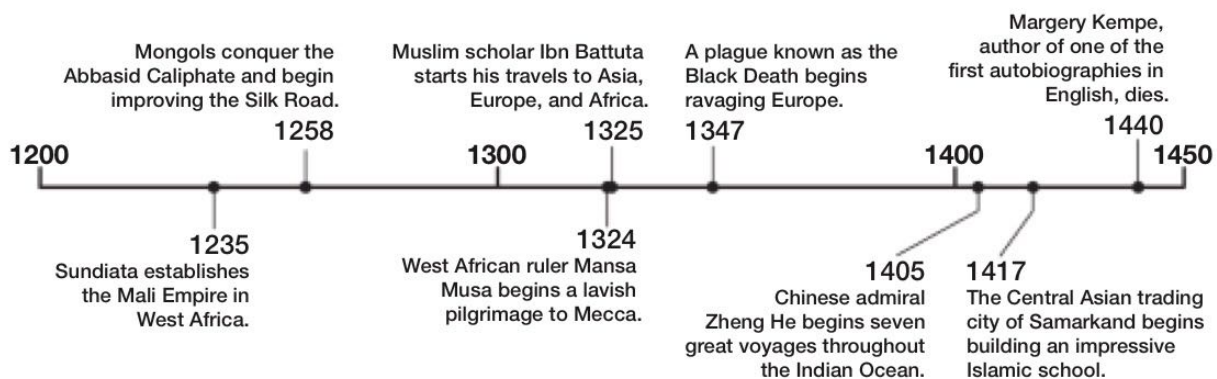
# UNIT 2: Networks of Exchange from c. 1200 to c. 1450

## Understand the Context

Between 1200 and 1450, economic activity along existing trade routes increased in volume and scope. Technological and commercial innovations, imperial expansion, and demand for luxury goods were key factors in the ongoing expansion of trade. Growing trade networks accelerated cultural, biological, and technological diffusion across Afro-Eurasia.

**Factors that Expanded Trade** Between 1200 and 1450, the rise of powerful states and empires played a critical role in increasing the volume and geographical reach of existing trade networks. The Mongol Empire promoted trade along the Silk Roads, creating a vast commercial network across Eurasia. Trade routes across the Sahara and in the Indian Ocean added both West Africa and East Africa to this network. Improvements to previously existing commercial practices, including forms of credit, facilitated larger networks of exchange. Driving this growth in trade was a growing demand for luxury goods, such as silk and porcelain from China and gold from Africa.

**Consequences of Trade** In the context of this growing trade, powerful new trading cities emerged scattered across Africa and Eurasia. Trade provided the setting for significant cross-cultural exchanges. As merchants and other travelers moved from place to place, they introduced religious beliefs such as Islam and developments in technology such as paper making and gunpowder to new communities. Against the backdrop of this transfer of ideas and things, came also the rapid spread of deadly diseases, most notably the bubonic plague.



# The Silk Roads

*And don't forget that if you treat the custom-house officers with respect, and make them something of a present in goods or money, as well as their clerks and dragomen, they will behave with great civility, and always be ready to appraise your wares below their real value.*

—Italian merchant Francesco Balducci Peglotti (1471)

**Essential Question:** What were the causes and effects of the growth of networks of exchange after 1200?

**M**ore than 1,300 years after the first accounts of travel on the Silk Roads, these fabled routes that had fallen into disuse had revived by the 8th and 9th centuries. As described by merchant Peglotti, the land route of the Silk Roads was vibrant and essential to interregional trade in the 14th and 15th centuries.

Demand for luxury goods increased in Europe and Africa. Chinese, Persian, and Indian artisans and merchants expanded their production of textiles and porcelains for export. Caravans made travel safer and more practical, and the Chinese developed a system using paper money to manage increasing trade. Interregional trade on the Silk Roads flourished.

## Causes of the Growth of Exchange Networks

The Crusades helped pave the way to expanding networks of exchange, as lords and their armies of knights brought back fabrics and spices from the East. Despite the inroads on the Byzantine Empire by the Ottoman Turks, the Silk Roads trade routes remained in operation, as did sea routes across the Mediterranean Sea and the Indian Ocean. China was still eager for Europe's gold and silver, and Europe was growing more eager than ever for silk, tea, and rhubarb. Global trade increased. Although Europeans had not yet found a route around the Cape of Good Hope at the southern tip of Africa, they had been making overland trips across Europe for many centuries.

**Rise of New Empires** After the collapse of classical civilizations such as the Roman and Han empires, the first golden age of the Silk Roads came to an end, and activity declined dramatically. However, by the 8th and 9th centuries, Arab merchants from the Abbasid Empire revived the land route of the Silk Roads as well as sea routes in the Indian Ocean. Tang China had much to offer the newly revived global trade network, including the compass,



paper, and gunpowder. China exported porcelain, tea, and silk. From other parts of Asia, China imported cotton, precious stones, pomegranates, dates, horses, and grapes. These luxury goods appealed to the upper class of Chinese society, whose members reveled in their country's newfound affluence. This period marked the second golden age of the Silk Roads.

No other cause, however, had as significant an impact on the expansion of trade as did the rise of the **Mongol Empire**. Mongols conquered the Abbasid Caliphate in 1258, and in the 14th century China came under their control as well. Parts of the Silk Roads that were under the authority of different rulers were, for the first time, unified in a system under the control of an authority that respected merchants and enforced laws. The Mongols improved roads and punished bandits, both of which increased the safety of travel on the Silk Roads. New trade channels were also established between Asia, the Middle East, Africa, and Europe. Those who survived the conquests by the Mongols and their descendants benefited from the reinvigoration of trade routes that had not been heavily used since the days of the Roman and Han Empires. (You will read more about the Mongols in Topic 2.2.)

**Improvements in Transportation Technologies** Another cause for the expansion of exchange networks was the improvement of transportation. Travelers on the overland Silk Roads learned that traveling with others in caravans was safer than traveling alone. They also learned how to design saddles for camels that greatly increased the weight of the load the animals could carry.

Centuries earlier, China had made advances in naval technology that allowed it to control sea-based trade routes in the South China Sea. During the Han Dynasty, Chinese scientists developed the **magnetic compass** and improved the **rudder**, both of which helped aid navigation and ship control along the seas. The Chinese **junk**, also developed in the Han Dynasty, was a boat similar to the Southwest Asian dhow. It had multiple sails and was as long as 400 feet—at least triple the size of the typical Western European ship of its time. The hull of a junk was divided into compartments. The walls making these divisions strengthened the ship for rough voyages at sea and made sinking less likely.

## Effects of the Growth of Exchange Networks

Two significant effects of the expansion and stability of the Silk Roads were the series of oases that developed along the routes, including thriving cities, and commercial innovations that greatly helped to manage the increasing trade.

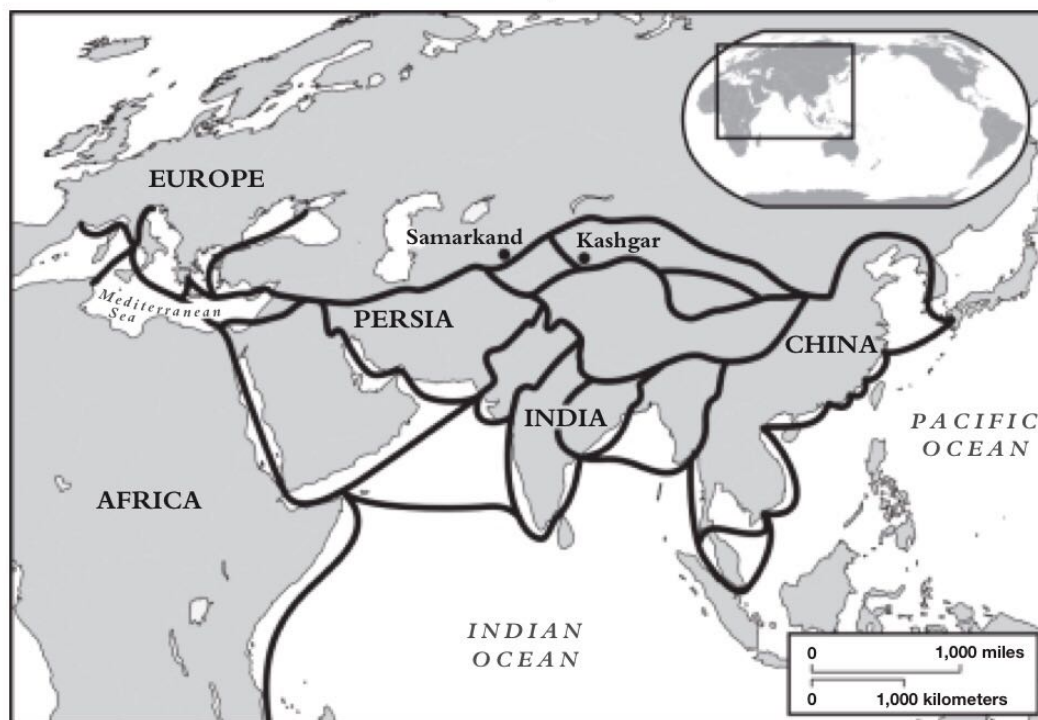
**Cities and Oases** Long stretches of the overland Silk Roads passed through inhospitable terrain—hot arid lands where water was scarce. Cities along the routes that were watered by rivers became thriving centers of trade. For example, the city of **Kashgar** is located at the western edge of China where northern and southern routes of the Silk Roads crossed, leading to destinations



in Central Asia, India, Pakistan, and Persia. It sits where the Taklamakan Desert meets the Tian Shan Mountains and is watered by the Kashgar River, which has made the lands along it fertile for crops such as wheat, rice, fruits, and cotton. Travelers on the Silk Roads depended on Kashgar for its abundance of water and food. Artisans in Kashgar produced textiles, rugs, leather goods, and pottery. Its food and handicrafts were sold in a bustling market. At the crossroads of both ideas and goods, the once primarily Buddhist city also became a center of Islamic scholarship.

Similarly, **Samarkand**, in present-day Uzbekistan in the Zeravshan River valley, was a stopping point on the Silk Roads between China and the Mediterranean. Samarkand was a center of cultural exchange as much as it was a center for trading goods. Archaeological remains show the presence of diverse religions, including Christianity, Buddhism, Zoroastrianism, and Islam. Like Kashgar, Samarkand was known for its artisans as well as its centers of Islamic learning and magnificently decorated mosques.

Silk Roads, c. 1200



**Caravanserais** Large flourishing trading cities such as Kashgar and Samarkand, however, were not the only oases along the arid Silk Roads. Once the routes of the Silk Roads became stabilized, inns known as **caravanserais** sprang up, often about 100 miles apart. That distance is how far camels could travel before they needed water. At the caravanserais, travelers could rest both themselves and their animals and sometimes trade their animals for fresh ones. The word *caravanserais* derives from the Persian words for caravan and palace.

**Commercial Innovations** To manage the increasing trade, China developed new financial systems. China had long been a **money economy**—using money rather than bartering with such commodities as cowrie shells or salt. However, the copper coins they used became too unwieldy to transport





Source: Wikimedia Commons

Credit: Photo by Babak Gholizadeh

The entrances to caravanserais were large enough to allow animals as well as people to enter. Inside the enclosure, there were stalls for animals as well as chambers for people. This caravanserai is in Iran.

for everyday transactions, so the government developed a system of credit known as **flying cash**. This allowed a merchant to deposit **paper money** under his name in one location and withdraw the same amount at another location. Locations for exchanging flying cash became the model for the banks of the modern era, including the **banking houses** established in European cities in the 1300s. At a banking house, a person could present a **bill of exchange**—a document stating the holder was legally promised payment of a set amount on a set date—and receive that amount of money in exchange. Each of these innovations encouraged and supported trade by providing convenience and the stability of institutions.

The Crusades awakened Europeans' interest in luxury goods from Asia. To acquire them, they organized the trade of European resources. In the 13th century, cities in northern Germany and Scandinavia formed a commercial alliance called the **Hanseatic League**. Controlling trade in the North Sea and the Baltic Sea, member cities of the league, such as Lubeck, Hamburg, and Riga, were able to drive out pirates and monopolize trade in goods such as timber, grain, leather, and salted fish. League ships would leave the Baltic and North Seas. They would round the Atlantic Coast of Western Europe, proceeding to the ports of the Mediterranean. There, they might pick up valuable goods from Arab caravans. The league lasted until the mid-17th century, when national governments became strong enough to protect their merchants. (Connect: Write a paragraph analyzing the effects in Asia of European interest in Asian goods. See Topic 1.1.)

Innovations in Commerce, 500 B.C.E. to 1603 C.E.			
Financial Instrument	Description	Origin Date	Early Location
<b>Coin</b>	Minted precious metals (silver, bronze, gold) with own inherent value	c. 500 B.C.E.	Lydia, Turkey
<b>Caravanserai</b>	Inns along trade routes where travelers could trade, rest, and replenish	c. 500 B.C.E.	Persian Empire
<b>Paper Money</b>	Currency in paper form	c. 800 C.E.	China
<b>Hanseatic League</b>	First common market and confederation of merchant guilds	1296 C.E.	Germany
<b>Banking House</b>	Precursor to modern banking	c. 200 B.C.E.	China
<b>Bill of Exchange</b>	A written order without interest that binds one party to pay a fixed sum to another party at a predetermined date in the future	c. 700 C.E.	China

**Increase in Demand** The growing demand for luxury goods from Afro-Eurasia, China, Persia, and India led to a corresponding increase in the supply of those goods through expanded production. Craftworkers expanded their production of such goods as silk and other textiles and porcelains for export. Increased demand also led to the expansion of iron and steel manufactured in China, motivating its proto-industrialization. (See Topic 1.1.)

#### KEY TERMS BY THEME

**TECHNOLOGY:** Sea  
Trade  
magnetic compass  
rudder  
junk

**GOVERNMENT:** New  
Empires  
Mongol Empire

**CULTURE:** Trade  
Cities  
Kashgar  
Samarkand

**ECONOMICS:** Innovations  
caravanserai  
money economy  
flying cash  
paper money  
banking houses  
bill of exchange  
Hanseatic League



# The Mongol Empire and the Modern World

*Swarming like locusts over the face of the earth, they [the Mongols] have brought terrible devastation to the eastern parts [of Europe], laying it waste with fire and carnage. After having passed through the land of the Saracens [Muslims], they have razed cities, cut down forests, overthrown fortresses, pulled up vines, destroyed gardens, killed townspeople and peasants.*

—Matthew Paris, from the *Chronica Majora* (1240)

**Essential Question:** How did Eurasian empires grow over time, and how did their expansion influence trade and communication?

The Mongols of Central Asia marched across much of Eurasia throughout the 13th century, leaving destruction and chaos in their wake. The reputation of the Mongols for slaughter spread even farther than their actual conquest. Matthew Paris had no firsthand knowledge of the Mongols as he wrote from the safe vantage point of a Benedictine abbey in England. Like Paris, most writers of the time focused on Mongol atrocities. However, in their quest for blood and treasure, the Mongols also sparked a period of interregional connection and exchange at a level that the world had not experienced in a thousand years.

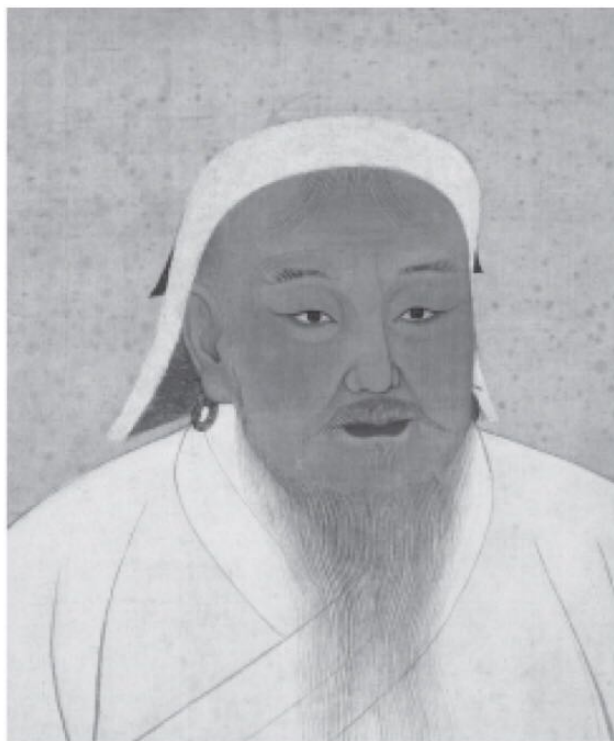
## The Mongols and Their Surroundings

In the 12th century, the Mongols were multiple clans of pastoral nomads who herded goats and sheep and who were also hunter-foragers, north of the **Gobi Desert** in East Asia. Life on the arid Asian steppes was harsh, and it shaped the Mongol culture.

The Mongols expected everyone, male and female, to become skilled horse riders, and they highly valued courage in hunting and warfare. They were surrounded by other tribes—the Tatars, the Naimans, the Merkits, and the powerful Jurchen in northern China. The Mongols coveted the relative wealth of tribes and kingdoms that were located closer to the Silk Roads and had easier access to luxury goods such as silk clothing and gold jewelry.

## Genghis Khan

The Mongol leader Temujin, born in 1162, spent the early decades of his life creating a series of tribal alliances and defeating neighboring groups one by one. He formed key friendships and married his oldest son to the daughter of a neighboring **khan**, or king. Temujin was intensely focused on building power. With this focus, he sometimes appointed talented nonfamily members to positions over family members. He was often also ruthless. For example, he killed his own stepbrother. He considered personal loyalty the best way to run his growing kingdom. In



Temujin, better known as Genghis Khan. 14th century, National Palace Museum

1206, Temujin gathered the Mongol chieftains at a meeting called a **kuriltai** where he was elected khan of the Mongolian Kingdom. He took the name **Genghis Khan**, or “ruler of all.”

**The Beginning of Conquest** In 1210, Genghis Khan and his troops headed east and attacked the powerful Jin Empire, which had been established by the Jurchens a century earlier and now ruled Manchuria, Inner Mongolia, and northern China. Its capital was the city of Zhongdu, present-day Beijing. Genghis Khan earned his reputation as a terrifying warrior during this campaign; anyone who resisted him was brutally killed in retribution. Sometimes the Mongols wiped out the civilian populations of entire towns after defeating their armies. Stories of Khan’s brutality spread in advance of his new westward campaigns, inducing some leaders to surrender before an attack. In 1219, Khan conquered both the Central Asian Kara Khitai Empire and the Islamic Khwarazm Empire farther west. By 1227, Genghis Khan’s **khanate**, or kingdom, reached from the North China Sea to eastern Persia. (Connect: Write a paragraph comparing the reign of Genghis Khan to the reign of Sundiata. See Topic 1.5.)

**Genghis Khan at War** Khan’s empire would not have been possible without the skilled and fearsome soldiers under his command. Mongolian soldiers were strong riders and proficient with the short bow. They were also highly disciplined, and Khan developed an efficient command structure. To help with communication between units, a messenger force was created whose members rode for days without stopping, even sleeping on their horses while continuing to ride. With the help of Genghis Khan, the Mongolian armies developed special units that mapped the terrain so that they were



prepared against attacks and knew which way to go to attack their enemies. Their military strategies extended to surprise and craft. For instance, Mongol forces frequently deployed a band of warriors smaller than that of their enemy, retreating in feigned defeat; usually, enemy forces pursued the retreating Mongols, who then amassed larger forces to confuse and outflank the enemy.

When coming upon an enemy settlement, Genghis Khan sent a small group ahead to ask for surrender. If the enemy refused, he killed all the aristocrats. Craftworkers, miners, and others with skills, such as the ability to read and write, were recruited for the Mongol Empire. Others were used as laborers for tasks such as carrying looted goods back to the Mongol capital or as fodder in the front lines of battles.

Mongols quickly incorporated into their military the weapons and technology of the peoples they conquered. For example, when they conquered parts of China and Persia, they exploited the expertise of captured engineers who knew how to produce improved **siege weapons**, such as portable towers used to attack walled fortifications and catapults that hurled stones or other objects. To keep contact with the far reaches of the empire, Genghis Khan created a type of pony express, except instead of carrying written letters riders carried oral messages.

**Genghis Khan at Peace** Those who expected Genghis Khan to govern the way he made war were surprised. The period of Eurasian history between the 13th and 14th centuries is often called the **Pax Mongolica**, or Mongolian peace. Genghis Khan established the capital of his empire at Karakorum, near the center of what is now the modern country of Mongolia. In constructing the city and establishing his government, he consulted with scholars and engineers of Chinese and Islamic traditions. Genghis Khan may have been responsible for more new bridges than any other ruler in history. The social policies of Genghis Khan were liberal for the day. For example, he instituted a policy of religious tolerance throughout the empire, which was unusual in the 13th century. Freed from years of warfare, Genghis Khan's soldiers took charge of protecting the Silk Roads, making them safe for trade and ushering in the third golden age of the Silk Roads. New trade channels were also established between Asia, the Middle East, Africa, and Europe. Those who survived the conquests by the Mongols and their descendants benefited from the reinvigoration of trade routes that had not been heavily used since the days of the Roman and Han Empires. (Connect: List the similarities and differences in religious policies between the Pax Mongolica and the Romans. See Prologue.)

Genghis Khan's effort to unify his empire included directing a scribe captured in 1204 to adapt the **Uyghur alphabet** to represent Mongol. Although the effort to establish one system throughout the empire failed, the alphabet is still used in Mongolia today.

## Mongolian Empire Expands

Three of Genghis Khan's grandsons set up their own khanates, further expanding the empire into Asia and Europe. With each conquest, the empire expanded, with new people absorbed into its economy and networks of exchange.



**Batu and the Golden Horde** In 1236, **Batu**, the son of Khan's oldest son, led a Mongolian army of 100,000 soldiers into Russia, which at the time was a loose network of city-states and principalities. Batu's army, which came to be known as the **Golden Horde**, marched westward, conquering the small Russian kingdoms and forcing them to pay tributes. In 1240, the capital city of Kiev was looted and destroyed.

### Mongol Empires in the 13th Century



The Golden Horde continued pushing westward. An initial period of sympathy for the Mongols, based on religious toleration and promotion of trade, evaporated when Western Europe saw the Golden Horde conquer a Christian region, Russia. In 1241, Batu led the Golden Horde into a successful military encounter with Polish, German, and French knights under the leadership of King Henry of Silesia. Soon afterward, Batu defeated a force of Hungarian knights. He next set his sights on Italy and Austria, but fate intervened. Back in Karakorum, Ogodei Khan, the Great Khan's successor, had died. Batu called off the attacks and returned home to attend the funeral and to see to issues of succession. By the time Batu returned to Europe, he had apparently lost interest in conquering Western Europe.

The Mongols ruled northern Russia by working through existing Russian rulers, who sent regular tributes. The Mongols chose this form of indirect rule because they did not want to live in the forests. The rulers of the city-state of **Moscow** began collecting additional tributes, which they set aside to develop an army to resist the Mongols, and began building an anti-Mongol coalition among the Russian city-states. This coalition, under Moscow's leadership, rose up against the Golden Horde and defeated it in 1380 at the Battle of Kulikovo. After this battle, Mongol influence began to decline. By the mid-16th century, Russia had defeated all of the descendant khans



of the Mongols except the Crimean Tatars, who were not defeated until the late 18th century. (Connect: Create a five-event timeline tracing the history of Russia from the Mongols to the development of the modern state. See Topics 1.6 and 2.1.)

The Mongols had long-lasting impact on Russia. As elsewhere, Russia suffered widespread devastation and death from the Mongol attacks. But once the destruction by the Golden Horde was over, Russia began to recover. The invasions prompted Russian princes to improve their military organization and to accept the value of more centralized leadership of the region. In addition, three centuries of Mongol rule severed Russia's ties with much of Western Europe. As a result, Russia developed a more distinctly Russian culture than it had before, and resistance to the Mongols created the foundation for the modern Russian state.

**Hulegu and the Islamic Heartlands** While Batu led the western armies, **Hulegu**, another grandson of Genghis Khan, took charge of the southwest region. In 1258, Hulegu led the Mongols into the Abbasid territories, where they destroyed the city of Baghdad and killed the caliph, along with perhaps 200,000 residents of the city. Hulegu's Mongolian armies continued to push west, threatening more of the Middle East. In 1260, however, they were defeated as a result of a temporary alliance between the Muslim Mamluks, under their military leader Baibars, and Christian Crusaders in Palestine. Both religious groups viewed the Mongols as a serious threat.

At the time of this defeat, Hulegu's kingdom, called the **Il-khanate**, in Central Asia stretched from Byzantium to the Oxus River, which is now called the Amu Darya. Mongols ruled this kingdom, but Persians served as ministers and provincial and local officials. The Mongols found that this arrangement resulted in maximum tax collection.

Eventually, Hulegu and most of the other Mongols living in the Il-khanate converted to Islam. Before this conversion, the Mongols had tolerated all religions in Persia. After the conversion, however, Mongols supported massacres of Jews and Christians.

**Kublai Khan and the Yuan Dynasty** Meanwhile, in the eastern part of the Mongolian Empire, a grandson of Genghis Khan, **Kublai Khan**, set his sights on China, which was then ruled by the Song Dynasty. China was a more formidable opponent than those faced by the other khans, and Kublai's armies spent the years from 1235 to 1271 attempting to conquer China. In 1260, Kublai assumed the title of Great Khan, and eleven years later finally defeated the Chinese. Adhering closer to Chinese tradition, rather than enforcing Mongolian practices of leadership and control, Kublai Khan established the **Yuan Dynasty**. He rebuilt the capital at Zhongdu, which had been destroyed by the Mongols in 1215, calling it Dadu. Kublai Khan proved to be skilled at governing a large, diverse territory. Like his grandfather, he instituted a policy of religious tolerance, which inspired loyalty in formerly oppressed groups such as Buddhists and Daoists, who were out of favor in China at the time. His policies were also tolerant toward Muslims, Jews, and Christians. With these and other reforms and the protection of the Mongolian armies, most Chinese initially enjoyed the rule of the Great Khan; he brought prosperity to China



because of cultural exchanges and improved trade with other countries, including European ones.

Mongol women led more independent lives than women in other societies of the time. In their nomadic culture, women tended flocks of sheep and goats in addition to raising children and providing meals for the family. Since they rode horses as Mongol men did, the women wore the same kind of leather trousers. Mongol women could remarry after being widowed and could initiate divorces.

**Mongols Lose Power** Despite Kublai Khan's adoption of many Chinese customs, Mongolian leaders eventually alienated many Chinese. They hired foreigners for the government rather than native-born Chinese. By promoting Buddhists and Daoists and dismantling the civil service exam system, the Mongols distressed the Chinese scholar-gentry class who were often Confucians. Although the official policy was one of tolerance, the Mongolians tended to remain separate from the Chinese and prohibited non-Mongols from speaking Mongolian.

Just as Batu had reached the limit of Mongol expansion to the west, the Mongolian rulers of China failed to expand beyond China. Starting in 1274, the Yuan Dynasty tried and failed to conquer Japan, Indochina, Burma, and the island of Java. These defeats suggested to the already disenchanted Chinese population that the Mongols were not as fearsome as they once had been. In the 1350s, the secret **White Lotus Society** began quietly organizing to put an end to the Yuan Dynasty. In 1368, **Zhu Yuanzhang**, a Buddhist monk from a poor peasant family, led a revolt that overthrew the Yuan Dynasty and founded the **Ming Dynasty** (1368–1644).

The Mongols' defeat in China paralleled a general decline in their power elsewhere, and the empire began to shrink. The Golden Horde had lost its territory by about 1369, while Central Asian territories were conquered by Tamerlane, also known as Timur the Lame, at around the same time.

(Connect: Describe what the Mongols desired in each of their conquests. See Topic 2.1.)

## The Long-Term Impact of the Mongolian Invasions

The Mongolian invasions played a key role in history in many ways, positive and negative.

- Mongols conquered a larger area than the Romans, and their bloody reputation was usually well-earned. Their empire was the largest continuous land empire in history.
- During the period known as the Pax Mongolica (c. 1250–c. 1350), Mongols revitalized interregional trade between Asia, the Middle East, Africa, and Europe. The Mongols built a system of roads and continued to maintain and guard the trade routes.



- Interregional cultural exchange occurred as well. Islamic scientific knowledge made its way to China, and paper from China made possible the revolution in communication powered by the Gutenberg printing press (see Topic 1.6). The Mongols transferred Greco-Islamic medical knowledge and the Arabic numbering system to Western Europe.
- The Mongol conquests helped to transmit the fleas that carried the **bubonic plague**, termed the Black Death, from southern China to Central Asia, and from there to Southeast Asia and Europe. It followed familiar paths of trade and military conquest.
- The Mongols ruled successfully due to their understanding of centralized power, a capacity that would transfer in many cases to the occupied civilizations. The Mongols devised and used a single international law for all their conquered territories. Thus, after the Mongols declined in power, the kingdoms and states of Europe, Asia, and Southeast Asia continued or copied the process of centralizing power.
- Mongol fighting techniques led to the end of Western Europe's use of knights in armor. The heavily clad knights could not react in time to the Mongols' use of speed and surprise.
- The era of the walled city in Europe also came to an end, as walls proved useless against the Mongols' siege technology. Some consider the **cannon** a Mongol invention, cobbled together using Chinese gunpowder, Muslim flamethrowers, and European bell-casting techniques.

#### KEY TERMS BY THEME

##### **GOVERNMENT:** Northern China and Central Asia

Mongols  
khan  
kuriltai  
Genghis Khan  
khanates  
Pax Mongolica

##### **GOVERNMENT:** Russia and Western Europe

Batu  
Golden Horde  
Moscow

##### **GOVERNMENT:** Islamic Heartlands

Hulegu  
Il-khanate

##### **GOVERNMENT:** China

Kublai Khan  
Yuan Dynasty  
Zhu Yuanzhang  
Ming Dynasty

##### **ENVIRONMENT:** Asia

Gobi Desert

##### **TECHNOLOGY:** Warfare

siege weapons  
cannon

##### **CULTURE:** Writing

Uyghur alphabet

##### **SOCIETY:** Revolt

White Lotus Society

##### **SOCIETY:** Disease

bubonic plague

## Exchange in the Indian Ocean

*Seek ye knowledge, even to China.*

—Hadith (9th century)

**Essential Question:** What were the causes and effects of the growth of networks of exchange after 1200, and how did environmental knowledge support that expansion?

The saying from the Hadith, traditionally attributed to the prophet Muhammad, provides guidance to Muslims, encouraging them to travel and learn. Following this advice, it is understandable that Dar al-Islam—literally the House of Islam, or Muslim world—might be called the world’s first global empire. It connected societies from North Africa to South Asia.

Even before missionaries and imperial armies spread Islam around the world, Muslim merchants traveling to non-Muslim lands in search of trading partners were paving the way. In fact, Arab merchants had been traveling to South Asia for centuries before Islam began expanding. Muslim merchants’ connections to Dar al-Islam interacted with developments in sailing technology and environmental knowledge to transform the Indian Ocean into an economic hot spot during the Postclassical Era.

### Causes of Expanded Exchange in the Indian Ocean

South Asia, with its location in the center of the Indian Ocean, benefited enormously from the trade in the **Indian Ocean Basin**. (Connect: Write a paragraph comparing the Islamic global empire with the Mongolian Empire. See Topic 2.2.) Although some of the causes of expanded trade in the Indian Ocean Basin were the same as those of expanded overland routes, some related specifically to ocean travel and knowledge.

**Spread of Islam** Although the Indian Ocean trade had existed as early as 200 B.C.E., the expansion of Islam connected more cities than ever before. Trading partners existed in East Africa, East and Southeast Asia, and South Asia. Muslim Persians and Arabs were the dominant seafarers and were instrumental in transporting goods to port cities across the Indian Ocean. Cities on the west coast of India, such as **Calicut** and Cambay, became thriving centers of trade due to interactions with merchants from East Africa and Southwest Asia.

Calicut, especially, became a bustling port city for merchants in search of spices from southern India. Foreign merchants from Arabia and China met in



Calicut to exchange goods from the West and the East, respectively. Local rulers welcomed the presence of Muslim and Chinese merchants, as it brought the city wealth and prominence in the Indian Ocean Basin.

**Increased Demand for Specialized Products** As the Indian Ocean trade grew, so did the demand for specialized products. Every region involved in trade had something special to offer its trading partners.

- India became known for the high quality of its fabrics, particularly cotton. In addition, merchants traveled to India in search of meticulously woven carpets as well as high-carbon steel (used for knives and swords), tanned leather, and artisan-crafted stonework. Merchants also sought pepper from India's southern coastal cities.
- Modern-day Malaysia and Indonesia became known as the **Spice Islands** because of the fragrant nutmeg, cinnamon, cloves, and cardamom they exported.
- Slaves, ivory, and gold came from the Swahili coastal cities of Mombasa, Mogadishu, and Sofala.
- China exported silks, and Chinese porcelain became coveted worldwide, which is why people in the West still refer to their fancier dishes as "fine china."
- From Southwest Asia came horses, figs, and dates.

Trade in enslaved people also played a role in exchanges in the Indian Ocean. While most Africans who were enslaved and transported to the Americas after 1500 came from west and central Africa, there had been a long-running slave trade in the eastern part of the continent. By routes over land or in the Indian Ocean, slaves from eastern Africa were sold to buyers in northern Africa, the Middle East, and India. Many were transported to the islands off the southeast coast of Africa, such as Madagascar. The trade reached its peak in the 18th and 19th centuries.

Enslaved people taken in the Indian Ocean trade suffered fates different from those who were taken across the Atlantic. Slaves in the Indian Ocean trade were more likely to provide forced labor in seaports in the shipping industry and as household servants. Some worked as sailors or even soldiers. Living in towns or cities, they had more opportunity to develop communities and to work alongside free laborers than did enslaved people taken to the Americas. Slaves who ended up in Islamic communities had certain rights, such as the right to marry. As a result of the **Indian Ocean slave trade**, African words, musical styles, and customs can be found in Oman, India, and elsewhere.

**Environmental Knowledge** Knowledge of **monsoon winds** was essential for trading in the Indian Ocean. In the winter months, winds originated from the northeast, while in the spring and summer, they blew from the southwest. Thus, merchants had to time their voyages carefully, often remaining in port cities for months at a time, depending on when favorable winds would come their way.



**Advances in Maritime Technology** Travelers needed ships capable of navigating the Indian Ocean's winds. Arab sailors used sailing technology to aid their travel. It is debatable whether Arab sailors invented the triangular **lateen sails** that they used, but the sails were popular because sailors found that the triangular shape could easily catch winds coming from many different directions. Chinese sailors during the classical period had invented the **stern rudder**, which gave their ships more stability and made them easier to maneuver. The small wooden dhows used by Arab and Indian sailors dominated the seas during the Postclassical Era. Trade facilitated the rapid spread of sailing technology across the many lands bordering the Indian Ocean in this period. (See Topic 4.1 for later Chinese maritime technology, such as the magnetic compass and improved rudder.) The **astrolabe**, improved by Muslim navigators in the 12th century, allowed sailors to determine how far north or south they were from the equator.

**Growth of States** The trading networks in the Indian Ocean fostered the growth of states to help institutionalize the revenue from trade. One Muslim city-state, **Malacca**, also spelled **Melaka**, became wealthy by building a navy and by imposing fees on ships that passed through the Strait of Malacca, a narrow inlet that many ship captains used to travel between ports in India and ports in China. The Sultan of Malacca became so powerful in the 1400s that he expanded the state into Sumatra and the southern Malay Peninsula. As in city-states in East Africa, Italy, and the Americas, Malacca's prosperity was based on trade rather than agriculture or mining or manufacturing.

The sultanate ended when the Portuguese invaded the city in 1511. The Portuguese hoped that by conquering the key city on the Strait of Malacca, they could control the trade that flowed through it between Europe, India, and China. They were successful enough to generate great wealth for their empire. However, they were less successful than they had hoped. Their conquest touched off conflicts among the other states in the region and caused traders to diversify their routes and the ports they used.

## Effects of Expanded Exchange in the Indian Ocean

Some of the very factors that caused expansion of exchange networks in the Indian Ocean also, in time, became effects.

**Diasporic Communities** Without the arrival of merchants in distant lands, trade could not have expanded. As a natural result of waiting for favorable winds for travel, these merchants interacted with the surrounding cultures and peoples of the region. In fact, many Arab and East African merchants stayed in western Indian port cities permanently because they married women they met there. Arab and Persian merchants settled in East Africa. Thus, these merchants from Dar al-Islam were the first to bring Islam to southern Asia, not through missionary work or conquest, but through intermarriage. Their children would generally be raised within Muslim traditions.



Settlements of people away from their homeland are known as a **diaspora**. In these communities, settlers introduced their own cultural traditions into the indigenous cultures. Those cultures, in turn, influenced the culture of the merchants. Diasporas arose through trade in many parts of the world.

Merchants in Diasporic Communities		
Merchant Community	Region(s)	Products
<b>Muslim</b>	China, Indian Ocean Basin, Europe	Silk, paper, porcelain, spices, gems, woods, gold, salt, amber, furs
<b>Chinese</b>	Southeast Asia, Africa	Cotton, tea, silk, metals, opium, salt
<b>Sogdian (in Samarkand)</b>	Main caravan merchants along Silk Roads, China	Silk, gold, wine, linens
<b>Jewish</b>	China, India, Europe	Glass beads, linens, dyes, spices
<b>Malay</b>	Sri Lanka	Nutmeg, pepper, cloves

Source: Iranica Online. "Sogdian Trade," <http://www.iranicaonline.org/articles/sogdian-trade>

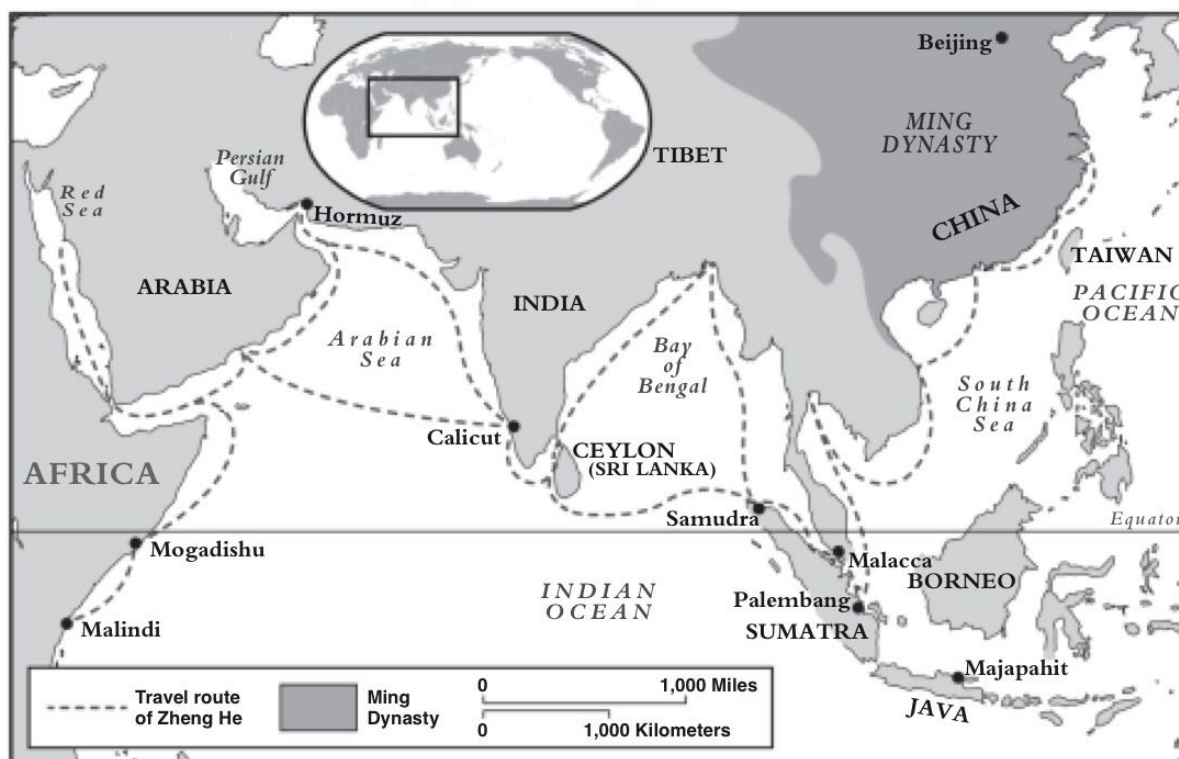
**Response to Increased Demand** In a similar way, increased demand for products caused trade to expand. At the same time, however, it resulted in several effects with long-lasting impact. For example, to meet rising demand, producers needed to find ways to become more efficient—to grow more crops, to make more textiles, to manufacture more iron. In some places, the role of the state increased even more to oversee these efforts at efficiency and to raise money through customs—taxes on imported goods—and fees for the use of seaports. The western Indian Rajput kingdom of **Gujarat**, for example, became the go-between for trade between the East and West. The revenue from customs in Gujarat was many times more than the entire worth of some European states.

**Swahili City-States** The Indian Ocean trade also created thriving city-states along the east coast of Africa, sometimes known as the **Swahili city-states**. "Swahili," which literally means "coasters," referred to the inhabitants of bustling commercial centers, such as Kilwa, Mombasa (in modern Kenya), and Zanzibar (in modern Tanzania). The traders of the Zanj Coast, as it was known in Arabic, sold ivory, gold, and slaves to their Arab trading partners, as well as more exotic goods such as tortoise shells, peacock feathers, and rhinoceros horns. In exchange, the "Zanj" cities acquired Chinese porcelain, Indian cotton, and manufactured ironwork. Trade was so vigorous with East Asia that Chinese porcelain remains a common find among the ruins of Swahili cities.

Trade brought considerable wealth to the cities on the East African coast. Architectural ruins in Kilwa suggest the wealth and grandeur that once existed there. For example, most buildings had traditionally been constructed of mud and clay. However, at the Indian Ocean trade's height, many mosques and wealthy merchants' homes were made of stone or coral.

**Significant Cultural Transfers** The transfer of knowledge, culture, technology, commerce, and religion intensified as a result of thriving trade in the Indian Ocean Basin. The voyages of the Muslim admiral **Zheng He** (1371–1433) reflect this transfer, as well as the conflicts it sometimes generated. In 1405, the Ming emperor Yongle sent Zheng He on the first of seven great voyages. Zheng traveled to Indonesia, Ceylon, and other coastal areas on the Indian Ocean, to Arabia, and to the east coast of Africa as well as to the Cape of Good Hope. The main purposes of the voyages were to display the might of the Ming Dynasty to the rest of the world and to receive tribute from the people he encountered. Zheng’s fleet was impressive: At its height, his fleet included more than 300 ships that carried 28,000 people.

**The Voyages of Zheng He, 1405–1433**



The expeditions won prestige for the Chinese government and opened up new markets for Chinese goods. Zheng He and his crew returned to China with exotic treasures, such as the first giraffe the Chinese had ever seen. They also brought back a new understanding of the world beyond China’s borders. The voyages inspired some to immigrate to ports in Southeast Asia and elsewhere.

Zheng He’s voyages stirred controversy, though. Confucianism promoted a stable, agrarian lifestyle, and scholars worried that greater interaction and trade with foreign cultures threatened China’s social order. Some critics simply looked down upon other cultures, deeming them barbaric and vastly inferior to Chinese culture. Some thought the voyages were too expensive.

Emperor Yongle’s successor, his son Zhu Gaozhi, ended Zheng He’s travels, and he also discouraged all Chinese from sailing away from China. To emphasize his point, he made building a ship with more than



two masts a punishable offense. Zheng's voyages did have one positive short-term result: They put a stop to pirate activities off the coast of China and in Southeast Asia. However, after China stopped sending armed merchant ships into the ocean, the pirate activities resumed, especially on the China Sea.

### KEY TERMS BY THEME

**GOVERNMENT:** States

Malacca (Melaka)

Gujarat

Swahili city-states

**ECONOMY:** Trade

Calicut

Spice Island

**ENVIRONMENT:** Ocean

Indian Ocean Basin

monsoon winds

**TECHNOLOGY:** Sailing

lateen sails

stern rudder

astrolabe

**CULTURE:** Disruptions and Transfers

Indian Ocean slave trade

diaspora

Zheng He

## Trans-Saharan Trade Routes

*From Timbuktu I sailed down the Nile [Niger] on a small boat, hollowed out of a single piece of wood...I went on . . . to Gawgaw [Gaogao], which is a large city on the Nile [Niger]... The buying and selling of its inhabitants is done with cowry-shells, and the same is the case at Malli [the city of Mali]. I stayed there about a month, and then set out in the direction of Tagadda by land with a large caravan of merchants from Ghadamas.*

—Ibn Battuta (1304–1353)

**Essential Question:** What were the causes and effects of Trans-Saharan trade, and how did the growth of empires influence trade and communication?

**W**hile the East African Coast had been fairly well populated for many centuries before the arrival of Islam, few societies had inhabited the **Sahara Desert** because its arid climate made it nearly impossible to farm. Though nomadic communities did conduct some trade across the Sahara, the volume of trade increased with the arrival of Muslim merchants in the 7th and 8th centuries. When empires such as Mali took over the area in the early 1200s, commerce expanded dramatically. As illustrated in the commentaries of Ibn Battuta, a Muslim scholar and explorer of the 14th century, merchants and traders used caravans to facilitate commerce. Africans traded gold, ivory, hides, and slaves for Arab and Berber salt, cloth, paper, and horses.

### Trans-Saharan Trade

The Sahara Desert is immense, occupying 3.6 million square miles—about the same size as China. Of that vast expanse of sand and rock, only about 800 square miles are **oases**—places where human settlement is possible because water from deep underground is brought to the surface, making land fertile. In some oases, the water comes from underground naturally. In others, humans have dug wells to access the water.

**Camels, Saddles, and Trade** Muslim merchants from Southwest Asia traveled across the Sahara on camels. Native to the Islamic heartland (Arabia), camels began to appear in North Africa in the 3rd century B.C.E. Accustomed to the harsh, dry climate of the **Arabian Desert**, camels adapted well to living



in the Sahara. Compared to horses, camels can consume a large quantity of water at one time (over 50 gallons in three minutes) and not need more water for a long time. They began to replace horses and donkeys after 300 C.E.

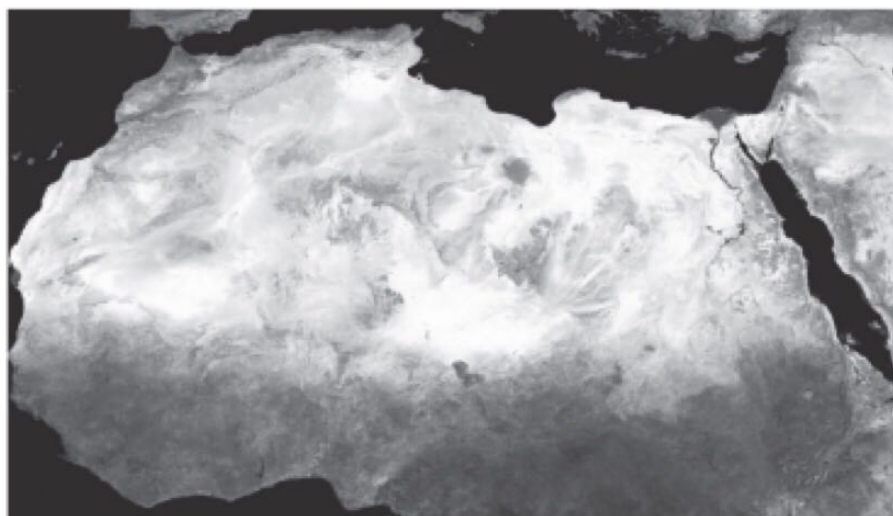
As use of the camel spread, people developed as many as 15 types of **camel saddles** for different purposes. South Arabians developed a saddle in which the rider sits in back of the hump, which makes riding easier because the rider can hold onto the hair of the hump. Northern Arabians developed a saddle for sitting on top of the hump, putting them high in the air, which gave them greater visibility in battles. Being near the head gave the rider the best possible control over the camel.

However, the saddle that had the greatest impact on trade was one the Somalis in Eastern Africa developed. They were semi-nomadic and needed to carry their possessions with them, so they designed a saddle for carrying loads up to 600 pounds. Without the development of this type of saddle, camels could not have been used to carry heavy loads of goods in trade.

Comparing Pack Animals			
Animal	Location	Benefits	Drawbacks
<b>Camel</b>	Northern Africa and Sub-Saharan West Africa	<ul style="list-style-type: none"> <li>• Able to travel long distances</li> <li>• Can eat thorny plants and drink salty water found in deserts</li> <li>• Has long eyelashes that protect against desert winds</li> <li>• Only animal that can cross deserts</li> <li>• Does not spook easily</li> <li>• Can carry up to 600 pounds</li> </ul>	<ul style="list-style-type: none"> <li>• Requires high level of salt to stay healthy</li> <li>• Can be very aggressive and even vengeful</li> <li>• Cannot be controlled with a bit</li> <li>• Cannot be boarded in a stall</li> </ul>
<b>Ox</b>	Eurasia and the Americas	<ul style="list-style-type: none"> <li>• Has high level of stamina</li> <li>• Can pull heaviest loads</li> <li>• Unlikely to stray or be stolen</li> <li>• Can survive on local grazing</li> <li>• Tolerates various climates and diets</li> </ul>	<ul style="list-style-type: none"> <li>• Moves slowly compared to other pack animals</li> <li>• Requires more water and food than other pack animals</li> </ul>
<b>Horse</b>	Worldwide	<ul style="list-style-type: none"> <li>• Can run at high speeds</li> <li>• Can be controlled with a bit</li> <li>• Can be used in battle</li> <li>• Can adapt to most climates and terrains</li> </ul>	<ul style="list-style-type: none"> <li>• Requires grain to keep fit</li> <li>• Spooks easily</li> <li>• Can be stolen easily</li> <li>• Strays easily</li> <li>• Less sure-footed than other pack animals</li> <li>• Cannot tolerate high heat</li> </ul>
<b>Llama</b>	Americas	<ul style="list-style-type: none"> <li>• Maintains traction in mountains</li> <li>• Has calm disposition</li> <li>• Requires little water</li> <li>• Adapts well to cold and mountainous climates</li> </ul>	<ul style="list-style-type: none"> <li>• Cannot pull heavy loads</li> <li>• Can carry less than other pack animals</li> <li>• Cannot tolerate high heat</li> </ul>

The caravans that crossed the Sahara often had thousands of camels laden not only with goods to trade but also with enough provisions, including fresh water, to last until the travelers could reach the next oasis. The people leading the caravans generally walked the entire way. The map on page 44 shows some of the main trade routes across the Sahara. There were seven north-south trade routes and two east-west routes. These put the people in Sub-Saharan Africa in touch with an expanding number of cultures and trading partners.

By the end of the 8th century C.E., the **trans-Saharan trade** had become famous throughout Europe and Asia. Gold was the most precious commodity traded. West African merchants acquired the metal from the waters of the Senegal River, near modern-day Senegal and Mauritania. Foreign traders came to West Africa seeking not only gold but also ivory and slaves. In exchange, they brought salt, textiles, and horses. For more than 700 years, trans-Saharan trade brought considerable wealth to the societies of West Africa, particularly the kingdoms of Ghana and Mali. They also brought Islam, which spread into Sub-Saharan Africa as a result. (Connect: Compare the impact of trade across the Sahara and throughout the Andes. See Topic 1.4.)



Source: Wikimedia Commons (NASA)

Satellite image of the expansive Sahara

## West African Empire Expansion

By the 12th century, wars with neighboring societies had permanently weakened the Ghanaian state. (See Topic 1.5.) In its place arose several new trading societies, the most powerful of which was **Mali**. North African traders had introduced Islam to Mali in the 9th century.

**Mali's Riches** The government of Mali profited from the gold trade, but it also taxed nearly all other trade entering West Africa. In that way, it became even more prosperous than Ghana had been. Most of Mali's residents were farmers who cultivated sorghum and rice. However, the great cities of **Timbuktu** and Gao accumulated the most wealth and developed into centers of Muslim life in the region. Timbuktu in particular became a world-renowned center of Islamic learning. By the 1500s, books created and sold in Timbuktu brought prices higher than most other goods.



**Expanding Role of States** The growth in trade and wealth gave rise to the need to administer and maintain it. For example, rulers needed to establish a currency whose value was widely understood. In Mali, the currency was cowrie shells, cotton cloth, gold, glass beads, and salt. Rulers also needed to protect both the trade routes and the areas where their currencies were made or harvested or their other trade resources were produced. Sometimes empires expanded their reach to take over resource-rich areas. They did so with military forces well provisioned with horses and iron weapons bought with the tax revenue. With each expansion, more people were drawn into the empire's economy and trade networks, bringing more people in touch with distant cultures.

Mali's founding ruler, **Sundiata**, became the subject of legend. His father had ruled over a small society in West Africa in what today is Guinea. When his father died, rival groups invaded, killing most of the royal family and capturing the throne. They did not bother to kill Sundiata because the young prince was crippled and was not considered a threat. In spite of his injury, he learned to fight and became so feared as a warrior that his enemies forced him into exile. His time in exile only strengthened him and his allies. In 1235, Sundiata, "the Lion Prince," returned to the kingdom of his birth, defeated his enemies, and reclaimed the throne for himself.

Sundiata's story made him beloved within his kingdom, but he was also an astute and capable ruler. Most scholars believe he was a Muslim and used his connections with others of his faith to establish trade relationships with North African and Arab merchants. Sundiata cultivated a thriving gold trade in Mali. Under his steady leadership, Mali's wealth grew tremendously.

**Mansa Musa** In the 14th century, Sundiata's grand-nephew, **Mansa Musa**, brought more fame to the region. However, Mansa Musa was better known for his religious leadership than for his political or economic acumen. A devout Muslim, Mansa Musa began a pilgrimage in 1324 to **Mecca**, Islam's holiest city. His journey, however, was unlike that of any ordinary pilgrim. Mali's prosperity allowed him to take an extraordinarily extravagant caravan to Arabia, consisting of 100 camels, thousands of slaves and soldiers, and gold to distribute to all of the people who hosted him along his journey. His pilgrimage displayed Mali's wealth to the outside world.

Mansa Musa's visit to Mecca deepened his devotion to Islam. Upon his return, he established religious schools in Timbuktu, built mosques in Muslim trading cities, and sponsored those who wanted to continue their religious studies elsewhere. Though most West Africans continued to hold onto their traditional beliefs, Mansa Musa's reign deepened the support for Islam in Mali.

However, in fewer than 100 years after Mansa Musa's death, the Mali kingdom was declining. By the late 1400s, the **Songhai Kingdom** had taken its place as the powerhouse in West Africa. Following processes like those Mali had gone through, Songhai became larger and richer than Mali. In spite of Mali's fall, Mansa Musa's efforts to strengthen Islam in West Africa succeeded: The religion has a prominent place in the region today.

## Empires in Western Eurasia and Africa in the 13th Century

	Mali	Al-Andalus	Byzantine Empire	Kievan Rus
<b>Location</b>	West Africa	Spain	Middle East	Russia
<b>Major City</b>	Timbuktu	Cordoba	Constantinople	Kiev
<b>Peak Years</b>	1200s to 1400s	711 to 1492	330 to 1453	900s to 1200s
<b>Key Figures</b>	<ul style="list-style-type: none"> <li>• Sundiata: founder who built a strong trade network</li> <li>• Mansa Musa: political and religious leader</li> </ul>	<ul style="list-style-type: none"> <li>• Ibn Rushd: Islamic legal scholar and philosopher</li> <li>• Maimonides: Jewish scholar of ethics</li> </ul>	<ul style="list-style-type: none"> <li>• Justinian: ruler responsible for the <i>Body of Civil Law</i></li> <li>• Heraclius: shifted focus to the East</li> </ul>	<ul style="list-style-type: none"> <li>• Vladimir I: converted to Christianity in 989</li> <li>• Yaroslav I: codified the legal system</li> </ul>
<b>Legacy</b>	<ul style="list-style-type: none"> <li>• Connected West and North Africa through trade</li> <li>• Spread Islam in West Africa</li> </ul>	<ul style="list-style-type: none"> <li>• Created vibrant, tolerant society</li> <li>• Preserved classical Greek learning</li> </ul>	<ul style="list-style-type: none"> <li>• Fostered trade between Asia, Europe, and Africa</li> <li>• Carried on Roman legacy</li> </ul>	<ul style="list-style-type: none"> <li>• Developed first large civilization in Russia</li> <li>• Spread Christianity eastward</li> </ul>

## KEY TERMS BY THEME

### GOVERNMENT: Sub-Saharan

Mali  
Sundiata  
Mansa Musa  
Songhai Kingdom

### CULTURE: Islam

Timbuktu  
Mecca

### ECONOMICS: Trade

trans-Saharan trade

### ENVIRONMENT: Africa

Sahara Desert  
oases

### ENVIRONMENT: Southwest Asia

Arabian Desert

### TECHNOLOGY: Pack animals

camel saddle



## Cultural Consequences of Connectivity

*I have not told half of what I saw, for I knew I would not be believed.*

—Marco Polo (1245–1324)

**Essential Question:** What were the intellectual and cultural effects of the trade networks from c. 1200 to c. 1450?

**W**hether by caravan through the Sahara or Gobi deserts or by junk or dhow on the China Sea or Indian Ocean, goods, people, and ideas traveled with relative freedom through the networks of exchange in Afro-Eurasia in the years between c. 1200 and c. 1450. One reason for this free exchange was the stability of the Mongol Empire and the protection it offered merchants and travelers. The empire reached well past former boundaries, incorporating new people, goods, and ideas within its authority. Technological developments, such as gunpowder and paper from China, were diffused by trade. Literary and artistic interactions and cultural exchanges were documented by travelers such as Marco Polo and Ibn Battuta, who told of the wonders they saw and the extraordinary people they met. The known world became a larger place.

### Religious, Cultural, and Technological Effects of Interaction

The diffusion of different religions between c. 1200 and c. 1450 had varying effects. In some cases, the arrival of a new religion served to unify people and provide justification for a kingdom's leadership. It often also influenced the literary and artistic culture of areas to which it spread, where themes, subjects, and styles were inspired by the spreading religion. In other places, it either fused or coexisted with the native religions. The interactions resulting from increased trade also led to technological innovations that helped shape the era.

**Influence of Buddhism on East Asian Culture** Buddhism came to China from its birthplace in India via the Silk Roads, and the 7th-century Buddhist monk Xuanzang helped make it popular. Monks related Buddhism to familiar Daoist principles, and in time Buddhist doctrines fused with elements of Daoist traditions to create the syncretic faith Chan Buddhism, also known as Zen Buddhism. Although some leaders in China did not want China's native religions diminished as a result of the spread of Buddhism, Chan Buddhism remained popular among ordinary Chinese citizens. Under the Song Dynasty (960–1279), many Confucians among the scholar gentry began to adopt its ideals into their daily lives. The development of printing had made Buddhist scriptures widely available to the Confucian scholar gentry. Buddhist writers also influenced Chinese literature by writing in the vernacular rather than the formal language of Confucian scholars, a practice that became widespread.



Source: Nezu Art Museum, Tokyo

Detail of dusk over fisher's village, from the handscroll "Eight Views of Xiaoxiang" by Chan Buddhist painter Mu-ch'i, c. 1250, Nezu Art Museum. Mu-ch'i is credited with starting the "sketch style" of painting that uses the fewest lines possible to suggest a subject. His work was very influential in East Asian art.

Japan and Korea, countries in China's orbit, also adopted Buddhism, along with Confucianism. In Korea, the educated elite studied Confucian classics, while Buddhist doctrine attracted the peasants. Neo-Confucianism was another syncretic faith that originated in China, first appearing in the Tang Dynasty but developing further in the Song Dynasty. Neo-Confucianism fused rational thought with the abstract ideas of Daoism and Buddhism and became widespread in Japan and Vietnam. It also became Korea's official state ideology.



**Spread of Hinduism and Buddhism** Through trade, the Indian religions of Hinduism and Buddhism made their way to Southeast Asia as well. The sea-based Srivijaya Empire on Sumatra was a Hindu kingdom, while the later Majapahit Kingdom on Java was Buddhist. The South Asian land-based Sinhala dynasties in Sri Lanka became centers of Buddhist study with many monasteries. Buddhism's influence was so strong under the Sinhala dynasties that Buddhist priests often advised monarchs on matters of government. (See Topic 1.3.)

The Khmer Empire in present-day Cambodia, also known as the Angkor Kingdom, was the most successful kingdom in Southeast Asia. The royal monuments at Angkor Thom are evidence of both Hindu and Buddhist cultural influences on Southeast Asia. Hindu artwork and sculptures of Hindu gods adorned the city. Later, when Khmer rulers had become Buddhist, they added Buddhist sculptures and artwork onto buildings while keeping the Hindu artwork.

**Spread of Islam** Through merchants, missionaries, and conquests, Islam spread over a wide swath of Africa, South Asia, and Southeast Asia. The chart below summarizes some of the cultural influences of that expansion.

Cultural Influences of Islam in Afro-Eurasia	
Region	Influences
Africa	<ul style="list-style-type: none"> <li>• <b>Swahili</b> language is a blend of Bantu and Arabic and is still widely spoken today.</li> <li>• Timbuktu became a center of Islamic learning.</li> <li>• Leaders of African states deepened Islamic ties through pilgrimages to Mecca.</li> </ul>
South Asia	<ul style="list-style-type: none"> <li>• Before Islam, Hinduism and Buddhism were popular.</li> <li>• After Islam arrived, Buddhists converted more readily than Hindus because they were disillusioned by the corruption among Buddhist priests.</li> <li>• With its emphasis on equality, Islam also attracted lower-caste Hindus.</li> <li>• Architecture blended Hindu designs with Islamic patterns.</li> <li>• <b>Urdu</b> language had influences from Sanskrit-based Hindi, as well as from Arabic and Farsi, a Persian language.</li> <li>• Bhakti poets and missionaries sought links between Hinduism and Islam.</li> </ul>
Southeast Asia	<ul style="list-style-type: none"> <li>• Muslim rulers on Java combined Mughal Indian features, local traditions, and Chinese-Buddhist and Confucian traits.</li> <li>• Traditional Javanese stories, puppetry, and poetry absorbed Muslim characters and techniques.</li> </ul>

**Scientific and Technological Innovations** Along with religion, science and technology traveled the trade routes. Islamic scholars translated Greek literary classics into Arabic, saving the works of Aristotle and other Greek

thinkers from oblivion. Scholars also brought back mathematics texts from India and techniques for papermaking from China. They studied medicine from ancient Greeks, Mesopotamians, and Egyptians, making advances in hospital care, including surgery. (See Topic 1.2.)

Improvements in agricultural efficiency, such as the use of Champa rice, spread from India to Vietnam and China. With a reliable food supply, the population grew, as did cities and industries, such as the production of porcelain, silk, steel, and iron. Papermaking reached Europe from China in the 13th century and along with printing technology helped lead to a rise in literacy.

Seafaring technology improved with **lateen sails**, the **stern rudder**, the **astrolabe**, and the **magnetic compass** as Chinese, Indian, and Southwest Asians expanded their knowledge of astronomy and other aspects of the natural world. Production of gunpowder and guns spread from China and influenced warfare as well.

Thanks, in part, to the writing of Marco Polo, historians have a good picture of the city of **Hangzhou** in China. It shows how trade supported urbanization. Hangzhou was large—it was home to about one million people—but other Chinese cities were larger. Chang'an had about two million people. However, Hangzhou was the center of culture in southern China, the home of poets such as Lu Yu and Xin Qiji, and other writers and artists. Located at the southern end of the Grand Canal, it was also a center of trade. Like other important cities of the era, such as Novgorod in Russia, Timbuktu in Africa, and Calicut in India, the city grew and prospered as its merchants exchanged goods. This trade brought diversity to Hangzhou, including a thriving community of Arabs.

Other cities on the trade routes that grew and thrived included **Samarkand** and **Kashgar**. (See Topic 2.1.) They were both known as centers of Islamic scholarship, bustling markets, and sources for fresh water and plentiful food for merchants traveling the Silk Roads.

#### Factors Contributing to Growth of Cities

- Political stability and decline of invasions
- Safe and reliable transportation
- Rise of commerce
- Plentiful labor supply
- Increased agricultural output

**Declining Cities** Kashgar, however, declined after a series of conquests by nomadic invaders and in 1389–90 was ravaged by Tamerlane. (See Topic 2.2.) Another once-thriving city, the heavily walled **Constantinople** in present-day Turkey, also suffered a series of traumatic setbacks. Mutinous Crusader armies weakened Constantinople after an attack in the Fourth Crusade in 1204 (see Topic 1.6), and in 1346 and 1349, the bubonic plague killed about half of the people in Constantinople. After a 53-day siege, the city finally fell to the Ottomans in 1453, an event some historians believe marks the end of the High



Middle Ages. (Connect: Describe the relationship between urban growth in Europe and later urban decline. (See Topic 1.6.)

### Factors Contributing to Decline of Cities

- Political instability and invasions
- Disease
- Decline of agricultural productivity

**Effects of the Crusades** Knowledge of the world beyond Western Europe increased as Crusaders encountered both the Byzantine and Islamic cultures. The encounters also increased demand in Europe for newfound wares from the East. In opening up to global trade, however, Western Europeans also opened themselves to disease. The plague, referred to as the **Black Death**, was introduced to Europe by way of trading routes. A major epidemic broke out between 1347 and 1351. Additional outbreaks occurred over the succeeding decades. As many as 25 million people in Europe may have died from the plague. With drastically reduced populations, economic activity declined in Europe. In particular, a shortage of people to work on the land had lasting effects on the feudal system. Also, exposure to new ideas from Byzantium and the Muslim world would contribute to the Renaissance and the subsequent rise of secularism.



Source: Hangzhou City Gate, China (1906), Public Domain

The pagoda behind the gate is a common Buddhist building design in China.

## Travelers' Tales

As exchange networks intensified and literacy spread as a result of paper and printing technology, an increasing number of travelers within Afro-Eurasia wrote about their journeys for eager readers.

**Marco Polo** In the late 13th century, **Marco Polo**, an Italian native from Venice, visited the court of Kublai Khan (see Topic 2.2). Chinese cities impressed Polo. After Polo returned to Italy in 1295, he wrote a book about his travels. However, many Europeans refused to believe his descriptions of China's size, wealth, and wonders. Only when other Europeans followed Polo's route to China did people widely accept that China was prosperous and innovative. Polo's captivating descriptions of the customs of the people he met intrigued Europeans. Polo wrote extensively about the high levels of urbanization he saw in the 13th century. Polo's point of view as a merchant kept him focused on trade-related matters.

They use paper money as currency. The men as well as the women are fair-skinned and handsome. Most of them always dress themselves in silk, as a result of the vast quantities of that material produced in Hangzhou, exclusive of what the merchants import from other provinces.

**Ibn Battuta** He was just 21 years old, **Ibn Battuta** (1304–1353), a Muslim scholar from Morocco, set out to see the world he read about.

I set out alone, having neither fellow-traveller in whose companionship I might find cheer, nor caravan whose part I might join, but swayed by an overmastering impulse within me and a desire long-cherished in my bosom to visit these illustrious sanctuaries.

Over 30 years, Ibn Battuta traveled through Central Asia, Southeast Asia, South Asia, China, Spain, North Africa, and Mali, mainly to Muslim lands. After telling his tales to the Sultan of Morocco, Battuta was told to “dictate an account of the cities which he had seen in his travel, and of the interesting events which had clung to his memory, and that he should speak of those whom he had met of the rulers of countries, of their distinguished men of learning, and of their pious saints.” His book *A Gift to Those Who Contemplate the Wonders of Cities and the Marvels of Traveling* provides a wealth of detail about the places he visited and their cultures. Unlike Polo, Battuta had the point of view of a Muslim devoted to his faith. His journey was in large part to learn as much as he could about Islam and its people and accomplishments.

**Margery Kempe** English mystic **Margery Kempe** (c. 1373–c. 1440), whose *The Book of Margery Kempe* was one of the earliest autobiographies in English, if not the first, could neither read nor write. She dictated her book to scribes who wrote down her descriptions of her pilgrimages to Jerusalem, Rome, Germany, and Spain. She does relate details of her travel experiences, such as being so overcome by the sight of Jerusalem as she approached it that she nearly fell off her donkey. However, her book is also significant because it is a firsthand account of a middle-class medieval woman's life. Kempe conveys both the intense spiritual visions and feelings of her mystical experiences and the trials of everyday life for a woman with 14 children.



## KEY TERMS BY THEME

**ENVIRONMENT:** Disease

Black Death

**CULTURE:** Travel Writers

Marco Polo

Ibn Battuta

Margery Kempe

**CULTURE:** Language

Swahili

Urdu

**TECHNOLOGY:** Nautical  
Improvements

lateen sail

stern rudder

astrolabe

magnetic compass

**SOCIETY:** Cities

Hangzhou

Samarkand

Kashgar

Constantinople

# Environmental Consequences of Connectivity

*Dead bodies filled every corner.*

—Giovanni Boccaccio (1313–1375)

**Essential Question:** What were some of the environmental effects of trade in Afro-Eurasia from c. 1200 to c. 1450?

**A**lthough trade networks enabled the spread of novel agricultural products, such as the introduction of certain citrus fruits to the Mediterranean basin, the most dramatic environmental consequence of increased commerce was not food, but rather disease. Bubonic plague or “Black Death” swept from Central Asia; struck in China, India, Persia, and Egypt; and arrived in Europe in 1347. The epidemic is estimated to have killed from 75 to 200 million people in Eurasia and peaked in Europe from 1347 to 1351. Boccaccio, whose famous work *The Decameron* was inspired by living through the plague, described the horrors he saw.

## Agricultural Effects of Exchange Networks

Along with luxury goods, spices, textiles, and religions, merchants in some places introduced crops where they had not grown before. The new crops often had an impact on land use and population growth and distribution. In some areas, people found ways to sustain abundant production; in others, overuse of the land led to environmental degradation.

**Migration of Crops** Few crops had as significant an impact as the quick-ripening **Champa rice**, which was introduced to the Champa states by Vietnam, a Hindu state, and then offered to the Chinese as tribute. Because of the Hindu influence on Champa in present-day central Vietnam, some scholars believe Champa rice may have originated in India. It was drought-resistant, flood-resistant, and capable of yielding two crops a year. It was widely distributed in China to meet the needs of the growing population and in turn contributed to the population growth.

It also had an impact on land use. Through terraced farming in the uplands and paddies in the lowlands, Champa rice was grown in many parts of China where once land was thought unusable for growing rice. Nonetheless, as the



population of China grew, people tended to migrate southward to the original rice growing region, contributing to the growth of cities.

Indonesian seafarers traveling across the Indian Ocean had introduced **bananas** to Sub-Saharan Africa. The nutrition-rich food led to a spike in population. Many Indonesians settled on the island of Madagascar. Bananas allowed the Bantu-speaking peoples (see Prologue) with their metallurgy skills and farming techniques to migrate to places where yams—a traditional food source—did not easily grow. To grow bananas, farmers increased land for cultivation, which enriched diets and led to population growth.

As caliphs conquered lands beyond the Arabian Peninsula, they spread Islam, the Arabic language, and the cultivation of cotton, **sugar**, and **citrus crops**. New foods were also available at the markets along the trade routes. The markets of Samarkand, for example, introduced new fruits and vegetables, as well as rice and citrus products from Southwest Asia, to Europe. Europeans' demand for sugar would become so high that it became a key factor in the massive use of enslaved people in the Americas in the 1500s and after. (Connect: Compare the techniques used by Chinese farmers to raise food products with the techniques of Indonesian or Vietnamese farmers. See Topic 1.1.)



**Source:** Library of Congress, Prints and Photographs Division

This photo was taken in 1911 of a vendor in the central Asian city of Samarkand. In the valleys in this region, people have long grown melons, grapes, apples, citrus fruits, pomegranates, apricots, peaches, and other fruits. These products were then widely distributed by merchants who traveled on the Silk Roads.



**Environmental Degradation** Increases in population put pressure on resources. For example, **overgrazing** outside of Great Zimbabwe was so severe that people had to abandon the city in the late 1400s. (See Topic 1.5.) In feudal Europe, overuse of farm land and **deforestation** led to **soil erosion**, reducing agricultural production. The Little Ice Age (c. 1300–c. 1800) also contributed to a decrease in agricultural products. Environmental degradation was a factor in the decline of the Mayans in the Americas as well.

## Spread of Epidemics through Exchange Networks

While scholars in Dar al-Islam and India were developing advances in medical understanding and treatment, no knowledge at the time could have prevented the spread of deadly infectious diseases that accompanied trade. The Mongol conquests helped to transmit the fleas that carried the **bubonic plague**, termed the Black Death, from southern China to Central Asia, and from there to Southeast Asia and Europe. Some historians believe the caravanserais that housed people and animals together may have contributed to the spread of the disease, since the animals likely carried infected fleas.

The Black Death had a tremendous impact on Europe, killing one-third of the population there in a few years. With fewer workers, agricultural production continued its decline. However, the reduced number of workers led to a new relationship between workers and those they worked for: each person's labor became more valuable, so workers could demand higher wages. This shift helped lay the groundwork for the economic changes that developed as feudalism declined.

The Black Death led to similar loss of life in other areas, including North Africa, China, and Central Asia. About 25 million Chinese and other Asians died between 1332 and 1347. South Asia and Sub-Saharan Africa were spared because there were few trading ports in those regions.

KEY TERMS BY THEME		
<b>ENVIRONMENT: Crop</b> Diffusion Champa rice bananas sugar citrus crops	<b>ENVIRONMENT: Degradation</b> overgrazing deforestation soil erosion	<b>ENVIRONMENT: Disease</b> bubonic plague



## Comparison of Economic Exchange

*“Wealthy merchants bring in big cargoes, which they unload and unhesitatingly send into the markets without thinking in the meantime of any security, or checking the account, or keeping watch over the goods. ”*

—Abdu Razzak, “Description of Calicut” (1442)

**Essential Question:** What were the similarities and differences among the various networks of exchange in the period from c. 1200 to c. 1450?

**C**alicut was known as the “City of Spices,” a market city where merchants traded their goods for pepper and cinnamon from India and a variety of goods from other areas as well. In some ways, such as its ability to provide security and the diversity of people who patronized the markets, Calicut was like other big trading cities along the well-traveled trade routes. In other ways, such as the type of currency it used and how the polity, or governmental unit, made money on trade, it differed from trading cities elsewhere. The similarities and differences among trading cities were also reflected in the larger trading networks.

### Similarities Among Networks of Exchange

Several major trading networks connected people in Africa, Europe, and Asia in the years between c. 1200 and c. 1450:

- the Silk Roads through the Gobi Desert and mountain passes in China and Central Asia to Southwest Asia and Europe, on which merchants tended to specialize in luxury goods
- the monsoon-dependent trade routes in the Indian Ocean linking East Asia with Southeast Asia, South Asia, and Southwest Asia, on which merchants exchanged goods too heavy to transport by land
- the trans-Saharan trade routes from North Africa and the Mediterranean Basin across the desert to West and East Africa, on which merchants traded salt from North Africa with gold from the kingdoms south of the desert

While each exchange network had its unique characteristics, all were similar in their origins, purpose, and effects.

**Origins** Interregional trade began well before the common era as agrarian cultures consolidated into stable settlements. The trade that flourished between c. 1200 and c. 1450 built on the routes these early traders—and conquerors—first traced. As kingdoms and empires expanded, so did the trade routes they controlled and traveled.

The Postclassical trading networks also needed the stability of established states to grow and expand. Stable kingdoms, caliphates, city-states, or empires assured merchants that the routes and the merchants themselves would be protected—which is why the wealthy merchants in Calicut could walk away from their cargoes knowing they would not be stolen. Stable polities also supported the technological upgrades that made trade more profitable—nautical equipment such as the magnetic compass and lateen sail, high-yielding strains of crops, and saddles to allow for the carriage of heavy loads of goods.

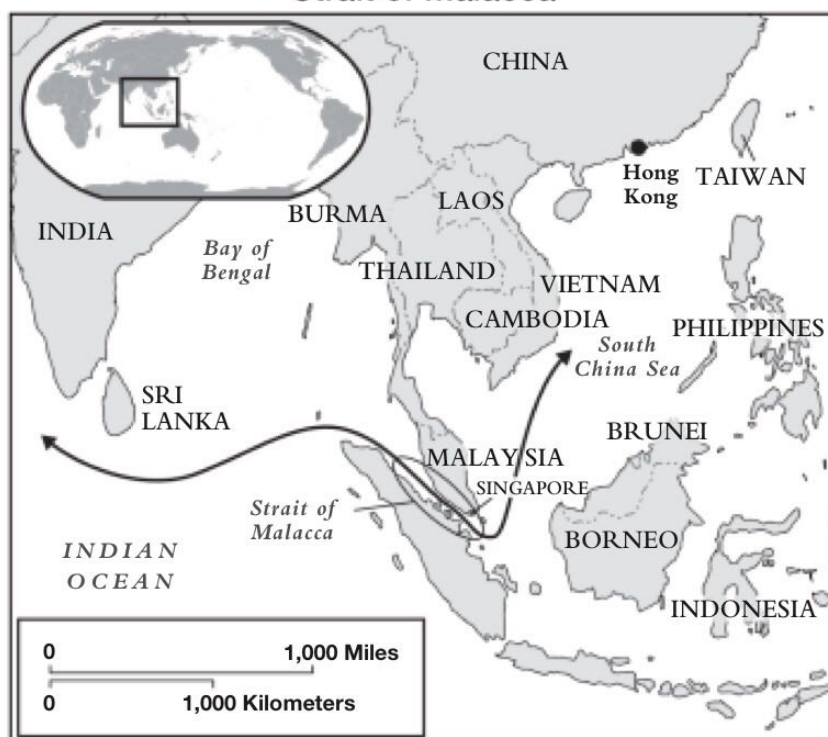
**Purpose** The trading networks shared an overall economic purpose: to exchange what people were able to grow or produce for what they wanted, needed, or could use to trade for other items. In other words, their purpose was primarily economic. However, as you have read, people exchanged much more than just products. Diplomats and missionaries also traveled the trade routes, negotiating alliances and proselytizing for converts. Together, merchants, diplomats, and missionaries exchanged ways of life as well as economic goods.

**Effects** All the exchange networks also experienced similar effects. Because of the very nature of a network—which can be described as a fabric of cords crossing at regular distances, knotted for strength at the crossings—the trade routes all gave rise to trading cities, the “knots” that held the network together.

Routes	Trading Cities
Silk Roads	Chang'an (present-day China), Samarkand (present-day Uzbekistan), Aleppo (present-day Syria), Mosul (present-day Iraq)
Indian Ocean	Malacca (present-day Malaysia), Calicut (present-day India), Hormuz (present-day Iran), Mombasa (present-day Kenya), Alexandria (present-day Egypt)
Trans-Saharan	Gao, Timbuktu (both present-day Mali), Marrakesh (present-day Morocco), Cairo (present-day Egypt)



## Strait of Malacca



The shortest route from East Asia to Southwest Asia on the Indian Ocean trade route was through the Strait of Malacca.

The growth of trading cities gave rise to another effect of the trade networks: centralization. Malacca, for example, grew wealthy from the fees levied on ships and cargoes passing through the Strait of Malacca. To prevent piracy, Malacca used its wealth in part to develop a strong navy—an endeavor that required centralized planning. Trading cities along each of the trade routes underwent similar developments, using their wealth to keep the routes and the cities safe.

Another aspect of trade in the cities that encouraged centralization was the desire for a standardized currency. Widely accepted currencies sped up transactions and enabled merchants to measure the value of products.



Many trading cities also became known as centers of learning. This is the Ulugh Beg Madrasa (Islamic religious school) that was built in Samarkand between 1417 and 1422.

**Source:** La madrasa Oulough Begh du Registan (Samarcande, Ouzbékistan)

**Author:** Jean-Pierre Dalbéra from Paris, France

## Differences Among Networks of Exchange

Despite their similarities, the networks of exchange were different in some ways, especially in the goods they exchanged, the nature of the routes and transportation, the technologies they inspired, and the religions they spread.

Routes	Goods	Transportation	Religions
Silk Roads	<b>East to West:</b> <ul style="list-style-type: none"> <li>• silk</li> <li>• tea</li> <li>• spices</li> <li>• dyes</li> <li>• porcelain</li> <li>• rice</li> <li>• paper</li> <li>• gunpowder</li> </ul> <b>West to East:</b> <ul style="list-style-type: none"> <li>• horses</li> <li>• saddles</li> <li>• fruit</li> <li>• domestic animals</li> <li>• honey</li> <li>• textiles</li> </ul>	<ul style="list-style-type: none"> <li>• horses</li> <li>• camels</li> </ul> <b>Technologies</b> <ul style="list-style-type: none"> <li>• saddles</li> <li>• caravanserai</li> </ul>	<ul style="list-style-type: none"> <li>• Buddhism from South Asia to East and Southeast Asia</li> <li>• Neo-Confucianism from China to Korea, Japan, and Vietnam</li> <li>• Islam from Southwest Asia to South Asia</li> </ul>
Indian Ocean (and Mediterranean Basin)	<b>From East Africa:</b> <ul style="list-style-type: none"> <li>• gold</li> <li>• ivory</li> <li>• quartz</li> <li>• animal skins</li> </ul> <b>From Southwest Asia:</b> <ul style="list-style-type: none"> <li>• citrus</li> <li>• fruits</li> <li>• dates</li> <li>• books</li> </ul> <b>From Southern India:</b> <ul style="list-style-type: none"> <li>• textiles</li> <li>• peppers</li> <li>• pearls</li> </ul>	<ul style="list-style-type: none"> <li>• dhows</li> <li>• junks</li> </ul> <b>Technologies</b> <ul style="list-style-type: none"> <li>• stern rudder</li> <li>• lateen sail</li> <li>• astrolabe</li> <li>• magnetic compass</li> </ul>	<ul style="list-style-type: none"> <li>• Buddhism from South Asia to East and Southeast Asia</li> <li>• Neo-Confucianism from China to Korea, Japan, and Vietnam</li> <li>• Islam from South Asia to Southeast Asia</li> <li>• Christianity from Mediterranean Basin</li> </ul>
Trans-Saharan	<b>North to South:</b> <ul style="list-style-type: none"> <li>• horses</li> <li>• books</li> <li>• salt</li> </ul> <b>South to North:</b> <ul style="list-style-type: none"> <li>• gold</li> <li>• ivory</li> <li>• cloth</li> <li>• slaves</li> </ul>	<ul style="list-style-type: none"> <li>• caravans of camels for carrying goods</li> <li>• people walked</li> </ul> <b>Technology</b> <ul style="list-style-type: none"> <li>• saddles to increase load bearing</li> </ul>	<ul style="list-style-type: none"> <li>• Islam from Southwest Asia and North Africa to Sub-Saharan Africa</li> </ul>



The trading networks also had unique currencies and commercial practices. For example, at one time silk was not only a commodity but also a currency. In places in Southeast Asia, tin ingots were used as a currency standard. West African states used cowrie shells as currency.

In time, however, states shifted to a money economy based on gold and other metal coins. To make commerce less bulky, the Chinese invented “flying cash” (see Topic 2.1) and established the precursors of banks, including the practice of extending credit.



Fanam coins from the Eastern Gupta Dynasty in Kalinga (1078–1434)  
 Source: Wikimedia Common Credit: Sujit Kumar

## Social Implications of Networks of Exchange

The rising demand for luxury goods spurred efforts to make production more efficient than it had been. China went through a period of proto-industrialization as it sought to meet the demand for iron, steel, and porcelain. (See Topic 1.1.) New business practices, such as partnerships for sharing the risk of investment, began to emerge.

The production of goods such as textiles and porcelain in China and spices in South and Southeast Asia increased to meet demands. As the amount of goods increased, the volume of trade on maritime trade routes began to supersede that of the overland trade routes. Larger ships were needed as well as improved navigational knowledge and technology.

**Labor** The demand for labor rose along with the growing demand for products. The forms of labor from earlier periods continued—free peasant farmers, craft workers or artisans in cottage industries, people forced to work to pay off debts, and people forced into labor through enslavement. Trade in slaves was common along the Indian Ocean and trans-Saharan routes.

Large-scale projects—irrigation canals, military defenses, great buildings—called for the work of thousands of organized laborers. Kinship ties often played a role in coordinating these large-scale projects. An observer in the Vijayanagara Empire in South India in the 1300s describes the work of completing a giant reservoir:

“In the tank I saw so many people at work that there must have been fifteen or twenty thousand men, looking like ants, so that you could not see the ground on which they walked, so many there were; this tank the king portioned out amongst his captains, each of whom had the duty of seeing that the people placed under him did their work, and that the tank was finished and brought to completion.”

*Narrative of Domingo Paes (1520–22)*

**Social and Gender Structures** The typical social structures during the period between 1200 and 1450 were still defined by class or caste, and societies, with rare exceptions, remained patriarchies. There were, however, areas where women exercised more power and influence. For example, even though the vast Mongol Empire was a patriarchy, Mongol women had somewhat more freedom than women in most other parts of Afro-Eurasia. Mongol women moved about freely and refused the burka from the West and foot binding from the East. Women were also often top advisors to the great khan.

In Europe, women worked as farmers and artisans, and they had their own guilds. In Southeast Asia, women were skilled in the practices of the marketplace, operating and controlling marketplaces as representatives of powerful families. Outside of these limited areas, however, women within other major regions still experienced far fewer opportunities and freedoms than men in virtually all aspects of life.

**Environmental Processes** The interconnections that spurred so much vibrant economic and cultural exchange also led to a steep population decline as merchants, diplomats, and missionaries transferred the bubonic plague and other infectious diseases along the trade routes. The plague, named the Black Death, contributed to the decline of once-great cities, such as Constantinople. Most believe that at least a third of Europe’s population died during this period. China experienced outbreaks in the 1330s and 1350s, causing tens of millions of deaths.

Changes in trade networks led to cultural diffusion and the development of educational centers in cities such as Canton, Samarkand, Timbuktu, Cairo, and Venice. Political instability and increased agriculture strained the environment. For example, soil erosion from deforestation, or overgrazing, forced growing populations to migrate to other areas.